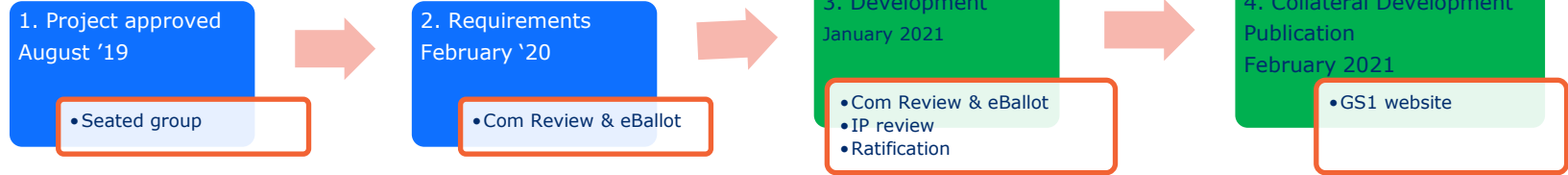


# GSMP RFID Low-Level Reader Protocol (LLRP) Mission Specific Working Group (MSWG) WR - 19-274

**Update for**  
1 March 2021

## Milestone deliverables



| <p><b>Completed last 30 days</b></p> <ul style="list-style-type: none"> <li>• Congratulations Ratification LLRP 2.0 Solution</li> <li>• Completed eBallot</li> <li>• Completed IP Review</li> <li>• Discussed collateral development</li> </ul>  | <p><b>Next steps</b></p> <ul style="list-style-type: none"> <li>• Group decio keep group open to share implementations and make any updates on standard or collateral development</li> <li>• Communication campaign with marketing</li> </ul>  | <p><b>Risks and Issues</b></p> <p>None</p>        |                    |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
|--|--|---|--------------------|-----------------|--------------------|--------------|---|---|---|----------------------|---|---|---|------|----|---|---|--------------------|----|---|---|--|---------|-------------------------------|-----|----------|----------------|----------------|-----|----------------|------------|----------------------|--------|--|
| <p><b>Project Description</b></p> <p>This group will define and develop a <b>revised version</b> of the Low Level Reader Protocol (<b>LLRP</b>) <b>Standard</b> to clarify its use within the RFID community, identify and add new features needed to align with the Gen2V2 Air Interface standard while ensuring new features do not cause any disruption—and that the revised version of LLRP is backward-compatible with existing deployments. Any additional functionality not currently included in the Gen2V2 standard is considered out of scope of this project.</p> <p><b>Deliverable/Objective</b></p> <ul style="list-style-type: none"> <li>➢ Develop a revised version of the LLRP Standard to include the updated Gen2V2 standard.</li> <li>➢ The group may identify guidance and training material to support the RFID community when implementing LLRP-based solutions.</li> </ul> | <p><b>Company participation</b></p> <table border="1"> <thead> <tr> <th></th> <th>Actual roster</th> <th>Required roster</th> <th>Minimum votes (12)</th> </tr> </thead> <tbody> <tr> <td>Manufacturer</td> <td>4</td> <td>0</td> <td>0</td> </tr> <tr> <td>Retailer/<br/>eTailer</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>MO's</td> <td>14</td> <td>3</td> <td>2</td> </tr> <tr> <td>Solution Providers</td> <td>15</td> <td>5<br/>(2 Reader,<br/>2 chip<br/>1 system integrator)</td> <td>3</td> </tr> </tbody> </table> |   | Actual roster      | Required roster | Minimum votes (12) | Manufacturer | 4 | 0 | 0 | Retailer/<br>eTailer | 0 | 0 | 0 | MO's | 14 | 3 | 2 | Solution Providers | 15 | 5<br>(2 Reader,<br>2 chip<br>1 system integrator) | 3 | <p><b>Stakeholders</b></p> <table border="1"> <tbody> <tr> <td>Sponsor</td> <td>Robert Beideman (not an OGSM)</td> </tr> <tr> <td>SDL</td> <td>John Ryu</td> </tr> <tr> <td>CE/Sol Liaison</td> <td>Claude Tetelin</td> </tr> <tr> <td>SME</td> <td>Claude Tetelin</td> </tr> <tr> <td>AG Liaison</td> <td>Amber Walls (GS1 US)</td> </tr> <tr> <td>Chairs</td> <td>Michael Koch (Zebra)<br/>Thomas J. Frederick (Clairvoyant Technology LLC)</td> </tr> </tbody> </table> | Sponsor | Robert Beideman (not an OGSM) | SDL | John Ryu | CE/Sol Liaison | Claude Tetelin | SME | Claude Tetelin | AG Liaison | Amber Walls (GS1 US) | Chairs | Michael Koch (Zebra)<br>Thomas J. Frederick (Clairvoyant Technology LLC) |
|  | Actual roster  | Required roster                                   | Minimum votes (12) |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
| Manufacturer   | 4  | 0   | 0                  |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
| Retailer/<br>eTailer   | 0  | 0   | 0                  |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
| MO's   | 14   | 3   | 2                  |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
| Solution Providers   | 15   | 5<br>(2 Reader,<br>2 chip<br>1 system integrator) | 3                  |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
| Sponsor  | Robert Beideman (not an OGSM)  |   |                    |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
| SDL  | John Ryu   |   |                    |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
| CE/Sol Liaison   | Claude Tetelin   |   |                    |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
| SME  | Claude Tetelin   |   |                    |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
| AG Liaison   | Amber Walls (GS1 US)   |   |                    |                 |                    |              |   |   |   |                      |   |   |   |      |    |   |   |                    |    |   |   |  |         |                               |     |          |                |                |     |                |            |                      |        |  |
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| Legend   |                                       |          |                                 |
|----------|---------------------------------------|----------|---------------------------------|
| <b>G</b> | On schedule                           | <b>Y</b> | Minor Risk/~10% behind schedule |
| <b>R</b> | Significant risk/10%+ behind schedule | <b>C</b> | Complete                        |

# GSMP RFID Low-Level Reader Protocol (LLRP) Mission Specific Working Group (MSWG) WR - 19-274

## What business challenges are being solved

This work will reduce the risk of a surge in proprietary solutions that could diverge from the GS1 standards, will make more efficient use of RFID technology, and ultimately increase its value to the GS1 community. The updated standard will safeguard the investments made by industry in GS1's RFID standards, will provide a standards-based way forward that is truly interoperable, and enable the implementation of all available functionality.

## Project deliverables status (completed documents are hyperlinked)

| Standards  | Publication Date | Collateral  | Publication Date   |
|--|------------------|---|--|
| <ul style="list-style-type: none"><li>RFID Low-Level Reader Protocol (LLRP) 2.0</li><li><a href="#">LLRP Publication</a></li></ul> | Jan 2021         | <ul style="list-style-type: none"><li>Marketing slide (Jen)</li><li>Claude to share with RFID community</li></ul> | <ul style="list-style-type: none"><li>Mar 2021</li></ul> |



### Legend

**G**

On schedule

**Y**

Minor Risk/~10% behind schedule

**R**

Significant risk/10%+ behind schedule

**C**

Complete

# LLRP 2.0 (ratified January 2021)

Fully aligned with  
EPC Gen2 v2.1  
air interface protocol

## What?

LLRP is the RFID-aware protocol that standardizes the network interface of the RFID readers.

## Low Level Reader Protocol (LLRP)

specifies an interface between RFID readers and clients. The interface protocol is called low-level because it **provides full control of RFID air interface** protocol operation timing and access to all the parameters of each Gen2v2 command. This release 2.0 provides new features that allow a perfect match between LLRP and the Gen2v2 Air Interface Standard. **New features include** LLRP version management for **backward compatibility** together with **Untraceable** and **Authenticate** commands for privacy and security purposes.

## Why?

To help developers and RFID architects to have a common programmatic interface to RFID readers from different manufacturers.

## Where?

